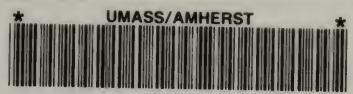


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# HOME WATER CONSERVATION GUIDE



Including 20 tips to help you save  
thousands of gallons of water each year.

OVERSEAS COLLECTION  
MAY 23 1990  
University of Massachusetts  
Depository Copy



Massachusetts Water Resources Authority

# Is your town listed below?

Sixty towns depend on water service, sewer service or both provided by the Massachusetts Water Resources

Authority (MWRA). If you live or work in any of these towns—or visit for business, entertainment, shopping or recreation—the information contained in this Guide is vital to you, your family—and your future well-being.

Arlington	Lynn †∅	Saugus †
Ashland *	Lynnfield	Somerville
Bedford *	Water District †	Southborough †
Belmont	Malden	South Hadley
Boston	Marblehead †	Fire District #1 †
Braintree *	Marlborough †∅	Stoneham
Brookline	Medford	Stoughton *
Burlington *	Melrose	Swampscott †
Cambridge ∅	Milton	Wakefield ∅
Canton ∅	Nahant †	Walpole *
Chelsea	Natick *	Waltham
Chicopee †	Needham ∅	Watertown
Clinton †	Newton	Wellesley ∅
Dedham	Northborough †∅	Weston †∅
Everett	Norwood	Westwood *
Framingham ∅	Peabody †∅	Weymouth *
Hingham *	Quincy	Wilbraham †
Holbrook *	Randolph *	Wilmington *
Leominster †∅	Reading *	Winchester ∅
Lexington	Revere	Winthrop
		Woburn ∅
		Worcester †∅

† Water service only

\* Sewer service only

∅ These towns are only partially supplied with MWRA water, use water only in emergencies, or currently use no MWRA water at all—but have the right to do so.

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# WATER, WATER EVERYWHERE?

You're pretty careful about how you use water. You turn it off while brushing your teeth—and you certainly wouldn't leave it running while you answered the door.

Perhaps you're not quite sure that there's anything more you can do to conserve water. Besides, there seems to be plenty of it. Why, nearly 80% of

the earth's surface is water. And we have one of the world's largest reservoirs right here in Massachusetts.

In addition to providing some excellent water-saving tips, this booklet is going to expose some myths. So stay with us for awhile. We think you may be surprised by what you read.

## How much water do YOU use each day?

The average person uses about 60 gallons of water each day. How about you?

Snip the tallies on page 19. Tape one in your bathroom(s), kitchen, laundry room and other areas of water use; take one with you as you go about your daily business.

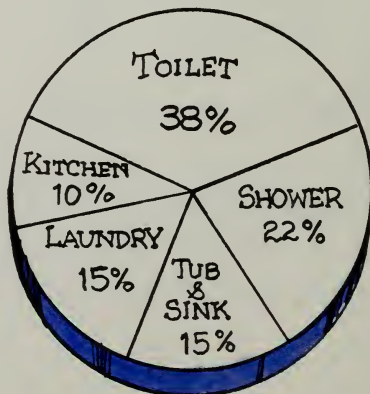
Note each time you flush the toilet, shower, bathe, brush your teeth, etc. Don't forget outdoor uses like washing your car or watering your garden. Note water use away from home, too; it can add up to more than 20% of your tally.

After seven days use the chart on page 18 and add it all up. Divide the Grand Total by 7 to determine your average daily usage. To find out how to reduce your daily use by as much as 40%—with very little effort—read on!



Each person uses an average of 60 gallons of water each day—75% of which is used in the bathroom. And we can waste as much as 40%!

But just one dripping faucet, leaky pipe or running toilet could dramatically increase your daily water use.







# WHERE YOUR WATER COMES FROM

Although water covers about 80% of the earth's surface, only 1% is fresh—and clean enough—to be used for drinking, cooking and bathing.

And that 1% is the result of a cycle of constant precipitation, evaporation, and condensation—ever disappearing and reappearing in different forms. The water we drink today has been around since the earth began—the *very same water*. So this water is precious indeed.

The Massachusetts Water Resources Authority (MWRA) supplies water and sewer services to 60 cities and towns; most are located in eastern Massachusetts. Formed in 1985, the MWRA assumed responsibility for certain functions previously performed by the Metropolitan District Commission (MDC).

While the MDC still owns the actual reservoirs, the MWRA now owns and maintains all the pipes and aqueducts that carry water from these reservoirs. It is our responsibility to keep the water flowing to the many towns we serve.

To defray the costs of keeping this aging distribution system in good repair and the fresh water clean, the MWRA sells water at wholesale rates to each community within the water system. It is your town that owns and maintains the pipe system that actually brings water to your home—and charges you for it.

## Think you're not affected because your town doesn't receive MWRA water?

Consider this: The population of Boston swells by 40% every day from people who work, shop or otherwise visit the city. If you do business or travel to *any* of the towns served by the MWRA, you depend on MWRA water—and contribute to the sewage that flows into Boston Harbor as well.

For other brochures or further information about the MWRA system, call 242-SAVE.



## Water. It's still an excellent value.

One penny will buy about 10 gallons; one gallon of water costs about one tenth of a cent.

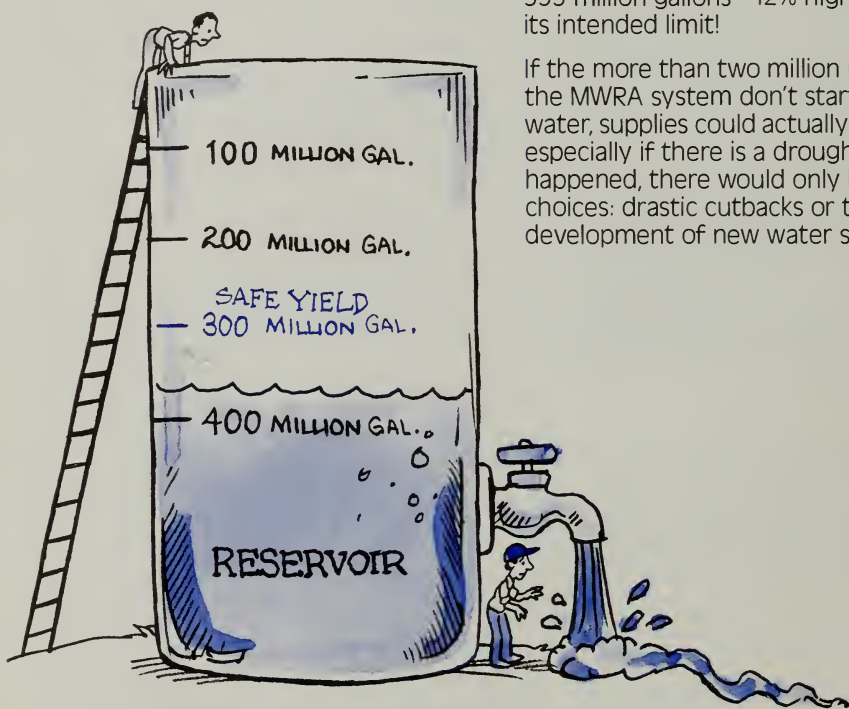
# How much water can the system supply?

The MWRA system of aqueducts, pipes and tunnels begins about 65 miles west of Boston at the Quabbin Reservoir and extends to Stoneham, just inside Route 128. Our two largest reservoirs, Quabbin and Wachusett,

store several hundred billion gallons of water when full.

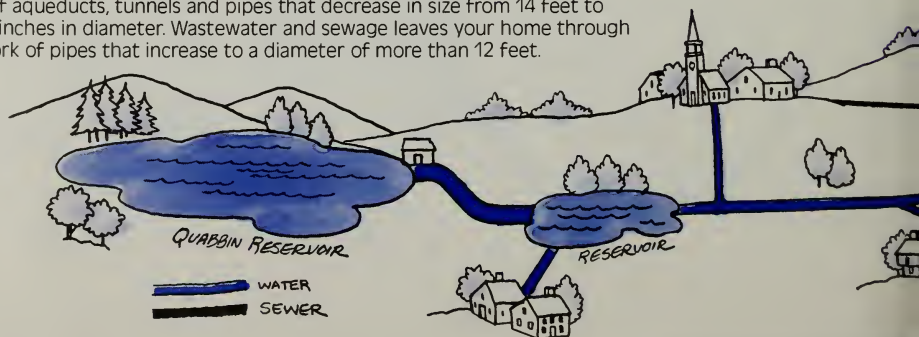
This complex system was designed to safely supply about 300 million gallons each day (also known as "safe yield"). But beginning about 10 years ago, the amount of water being withdrawn began to exceed this safe yield or limit. Although greater conservation awareness has helped, our current water usage tops a daily average of 335 million gallons—12% higher than its intended limit!

If the more than two million users of the MWRA system don't start saving water, supplies could actually run low—especially if there is a drought. If that happened, there would only be two choices: drastic cutbacks or the costly development of new water supplies.



## The MWRA: Serving more than 2 million people daily

Water originating at the Quabbin Reservoir reaches your home through a series of aqueducts, tunnels and pipes that decrease in size from 14 feet to several inches in diameter. Wastewater and sewage leaves your home through a network of pipes that increase to a diameter of more than 12 feet.





## What difference do a few gallons make?

A lot! There's only so much water. And we're all using more than we should. The MWRA and the individual communities we serve are taking major steps to conserve water, starting with an aggressive program to detect and repair leaks in pipes—many of which are more than 50 years old.

Many area industries are also doing their part by altering or replacing existing fixtures and machinery so they'll use less water.

**More than one third of the MWRA system use is residential. Together, we have the potential to save *millions* of gallons of water each day. It all adds up—if we each do our part.**



## HOW WATER IS USED

Most water uses are certainly necessary. We need water for drinking, personal hygiene, cleaning our homes and preparing our food. But we also use water to wash the car, water the lawn or "sweep" the sidewalk. Sometimes we just let it drip away.

**The problem is not what we use water for, but the fact that we frequently use more than we need.**

When you last ran your dishwasher, was it full? Have you recently tossed a tissue (or a bug) in the toilet and flushed it without a thought? Do you spend 20 minutes in the shower out of habit? Each of us probably uses water in unnecessary or careless ways almost every day.

Your toilet is the single biggest water-user in your home. *Believe it or not,*

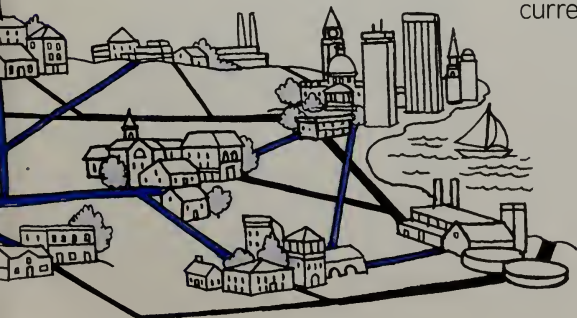
toilet flushing accounts for about 38%—more than a third—of the water used within your home each day! At work "sanitary use" accounts for about 80% of the water used (except in manufacturing firms).

## How can you conserve water?

There are three steps that you can take that may immediately cut your water consumption by 1/3 or more.

- 1) Repair leaky pipes, toilets, and faucets
- 2) "Retrofit" or replace your toilet
- 3) Install low-flow shower heads & faucet aerators

Each is explained on the following pages. But first, let's find out how much water your household is currently using.





# How much water does your household use?

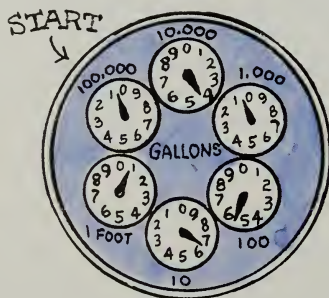
It's easy to find out. Simply read your water meter or review your water bill.

## Read your water meter.

Your water meter is the key to figuring out how much water your household uses in a day, week or month. It will also help you measure the impact of any water-saving measures you implement.



**A digital meter** reads like a car odometer; this one measures in *cubic feet*. The last digit to the right (2) actually indicates "tens" of cubic feet whereas the dial measures single cubic feet. Therefore, the actual reading on this digital meter is 379,122 cubic ft.



**A dial meter** looks more complicated, but it's actually very simple; this one measures in gallons. The set of dials must be read, as shown, starting with the dial that measures hundreds of thousands (or millions) of gallons.

If the hand is between two numbers, record the lowest one. This meter reads 40,560 gallons.

Your meter is probably located in the corner of your basement, on an outside wall of your house or somewhere on your street.

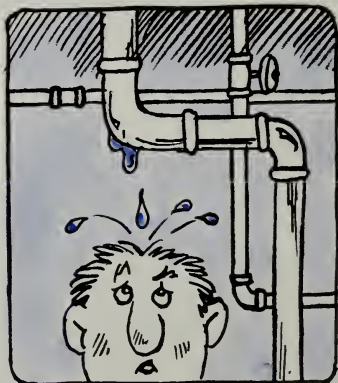
Its face should resemble one of the two types pictured. Meters measure water in either cubic feet or gallons—this should be clearly indicated. Make note of it. To convert cubic feet to gallons, multiply by 7.48 (3 cubic ft. x 7.48 = 22.44 gallons).

## A simple test for leaks

A leaky faucet is pretty obvious. But hidden leaks—in the toilet, under a sink or behind a washing machine—can waste a gigantic amount of water. And they could be damaging your floor or ceiling, too.

Take a reading of your water meter. Wait an hour, making sure no one uses any water in your home. Check it again. If the reading has changed, you've got at least one leak. Investigate!

Leaky pipes are sometimes difficult to locate. If you find a leaky pipe—or suspect you have one—it's a good idea to call a plumber.

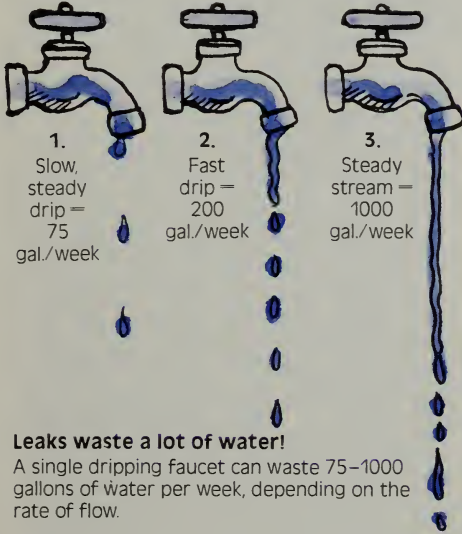






## Fixing faucet leaks

Your meter-reading may reveal a leaky faucet or two. Some drip noisily and others ooze silently at the base; some leaks aren't even big enough to register on your meter. But any leak, no matter how small, is a big waste of water.



Depending on the faucet type and your degree of plumbing expertise, you may be able to fix a leaky faucet quite easily by replacing a 25-cent washer. Consult a do-it-yourself book at the library, or ask your plumber for help.

### Review your water bill.

Not only will your water bill show how much water you've used in a certain time period; it will help you calculate the dollar savings earned by careful water conservation.

Bills are sent out by your local water department. They reflect the city's charge to you for the cost of the water itself, as well as the cost of system operation and maintenance.

While the format and frequency of the water bills vary from city to city, each measures water consumption either in cubic feet or gallons.



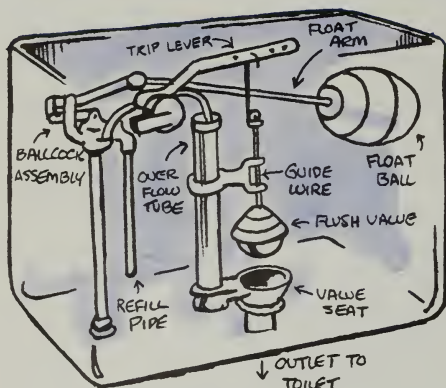
## ALL ABOUT YOUR TOILET

We've said it before, but it bears repeating: Your toilet is by far the biggest water-guzzling appliance in your house. There are several things you can do to make it use less.

### If you have a leaky toilet—fix it!

A leaky toilet can often be detected by the sound of it "running" or trickling in the night—but sometimes it leaks silently. Don't be fooled! Try this:

- Remove the lid from the toilet tank. (You may want to flush the toilet to get a better idea of how the mechanism works. Wait for the tank to refill completely and the water in the bowl to be still.)
- Place a dozen drops of red or blue food coloring in the tank. Wait 15 minutes. If colored water appears in the bowl, you have a leak.



There are many variations to the names of each toilet part! Don't be surprised if your "How-To" book calls it something slightly different.

## One leaky toilet can waste more than 50 gallons of water a day!

You may need to call your plumber to locate and fix the leak. Or—you may want to do it yourself. Here are a few helpful hints.

Empty your toilet tank for repairs: You do this by turning off the water inlet at the base of the toilet and flushing the tank. Soak up excess water (it's clean) with a sponge, then check these parts:

**1. Flapper or Flush Valve**—Your Flapper or Flush Valve may not be seating properly in the Valve Seat—or it may need replacement. (This is the typical cause of a running toilet.)

**To fix:** Check the Valve Seat for corrosion and clean if necessary. Try flushing. If the Flush Valve still won't seat properly, the Guide Wire may be bent, misaligned or catching in the Guide. Straighten the wire and clean the Guide. Be sure to check that the valve falls easily into place.

If the Flush Valve seems worn or in bad shape, check with your plumber or hardware store for inexpensive replacement parts and simple installation instructions.

**2. Overflow Tube**—If the water level in the tank is too high, it may spill into

the Overflow Tube. The correct water level is about 1/2 to one inch below the top of the Overflow Tube.

**To fix:** Bend the Float Arm downward very gently until the water fills to the proper level after you flush (see diagram). Be sure to check that the Float Arm is securely screwed in so that the arm won't rotate.

\*If the water level is too low, you may get a poor flush; carefully bend the Float Arm upward.

**3. Guide Wire**—If you have to jiggle the handle to keep the toilet from running, it may be a sticking Guide Wire, a misaligned Flush Valve or a loose handle.

**To fix:** Clean and straighten the Guide Wire and/or tighten the nut that holds the toilet handle to the tank.

**4. Shut-Off Valve**—If the water that refills the tank won't shut off, you may have a broken Shut-Off Valve in the Ballcock assembly; water just keeps spilling into the Overflow Tube.

**To fix:** Know your limitations. Unless you're an accomplished plumber, call a professional. At least you've isolated the problem!

If your leaky toilet can't be fixed, be sure to replace it with one that uses 1.6 gallons per flush (gpf) or less. New "low-flow" toilets are designed to flush efficiently with very little water.

The installation of low-flow toilets is so important that the Massachusetts Plumbing Code was amended to *require* toilets that use 1.6 gpf or less in all new installations after March, 1989.

## How much water does YOUR toilet use?

If your toilet was installed before 1980, it probably uses 5–7 gallons per flush. Toilets installed from the early '80s on generally use 3.5 gpf.



## Find out exactly how much water your toilet uses per flush.

- Remove the lid of your toilet tank. Take the inside measurements (length, width, and height to the water line). If any water is left in the tank after you flush, subtract those inches from the height measurement.
- To convert to cubic inches, multiply the three figures. (Example:  $17'' \times 7'' \times 9'' = 1071$  cubic inches.) To convert to gallons, divide by 230. ( $1071 \div 230 = 4.65$  gallons of water in the tank.) But don't forget—20–40% more water is actually used in the flushing process. Therefore, our example is a 5–7 gallon per flush toilet.

Unless your toilet uses 1.6 gallons or less, it should be "retrofitted" or replaced as soon as possible.

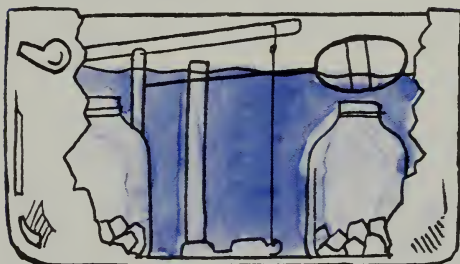
## Retrofitting your toilet

It's easier than it sounds. Retrofit simply means to make a minor, inexpensive change in order to save water. Displacement devices such as bottles and dams are two easy ways to retrofit your toilet. Each could save thousands of gallons of water a year.

**Weighted plastic bottles displace water** in your tank. They are inexpensive (practically free) and will save 1–3 quarts per flush. You probably have some suitable plastic bottles collecting dust in your basement right now. Put them to good use!

## How to put a plastic bottle in your toilet tank

1. Flush your toilet with the lid off and watch what happens to the mechanism. This will determine what shape (and size) bottle to use.
2. Put about an inch of pebbles in the bottle as weight. Fill to the top with water, then screw on the lid.



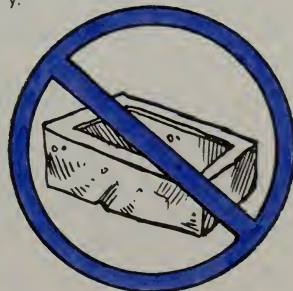
3. Carefully place the bottle in your tank as shown; be sure not to interfere with the flushing mechanism.

Experiment with bottles of various sizes and shapes. If the flush is not forceful enough, simply remove the bottle and replace it with a smaller one.

**Toilet dams hold water back**, reducing the amount of water needed per flush by 1–2 gallons. Dams are best suited for toilets that use 6 gpf or more. Consult your local hardware or plumbing supply store for advice and be sure to follow package instructions carefully.

Toilet dams are sold in pairs. You can use both—or just one per toilet. But it is important that they be installed properly. Otherwise, double-flushing may be necessary.

Never put bricks in your tank. They'll disintegrate and harm the system.





## Replacing your toilet

Although you will probably need a plumber to install your new toilet, you should make the selection yourself to be sure it uses 1.6 gpf or less. *If you're replacing a 5+ gallon tank, you can automatically (and permanently) cut your home water consumption by 25% or more!* Here are some tips to help you shop:

1) Measure the width and height of your existing toilet tank, and the "rough in" distance (the distance

between the wall and the "flange bolt" at the base of the toilet). Most new low-flow toilets require a rough in distance of 12"—which is compatible with most older toilets. *It is important to measure to be sure that your new toilet will fit into the existing space.*

2) Bring your own tape measure when you shop; most toilets are not labeled with the amount of water they use. Make the measurements yourself to be sure you've selected a toilet that uses 1.6 gpf or less.



## SAVING WATER WITH A LOW-FLOW SHOWER HEAD

Nothing beats a long, hot shower. That's why your shower is the second biggest water guzzler in your home. What's the smartest thing you can do to save water—and energy—in your shower? Switch to a low-flow shower head; it uses only 3 gallons per minute or less.

The exhilarating spray quality, effectiveness and durability of today's low-flow shower heads is far superior to those of ten years ago. If you choose one with a shut-off valve you'll be able to resume the same water temperature and pressure automatically. At just \$10–\$25 each, a low-flow shower head will save thousands of gallons of water a year.

With a low-flow shower head you'll use 3 gallons per minute (gpm) or less—instead of 5–7 gpm. You could save 20–40 gallons of water during one 10-minute shower. In one year, that's over 7000 gallons!

### You need a low-flow shower head if...

Hold a bucket underneath your shower for 20 seconds. If more than one gallon accumulates, you need a low-flow shower head.

A selection of low-flow shower heads is readily available at your hardware or plumbing supply store. Make sure you check the package to determine its water usage.



*Don't confuse a low-flow shower head with a "flow restrictor." In general, low-flow shower heads ensure a more enjoyable shower—and save more water.*





### A note on water pressure ...

Most low-flow shower heads are designed to function well with water pressure ranging from 30 to 80 pounds per square inch. This is well within the range of most homes and apartment buildings. Read the shower head instructions carefully or ask advice at your hardware store.

### It's easy to switch to a low-flow shower head.

There are two ways, depending on your shower configuration. See Figures 1 and 2.

1. Remove the old shower head by turning it counter-clockwise. Always put a soft cloth between the pliers and the shower head.



2. Clean the neck threads on the pipe, then screw the new low-flow shower head on clockwise. Tighten firmly.

It's possible that the new shower head will not fit into the existing pipe, especially if the "neck" ends in a ball joint. New necks are readily available in most hardware stores.

1. Remove the old shower head by turning it counter-clockwise; this exposes the neck and ball joint. (Always put a soft cloth between pliers and shower head.)

2. To remove the old neck, gently turn it counter-clockwise. (If it does not unscrew with moderate pressure, you may want to ask your plumber for help.)



3. Screw the new neck clockwise into the elbow. Teflon tape or pipe joint compound may be needed on the exposed threads of the new neck in order to seal the joints and provide a leak-proof connection.

4. Screw the new low-flow shower head clockwise onto the neck.



## INSTALLING AERATORS, SPRAY TAPS & MORE

Faucets can use 2-7 gallons of water per minute; a low-flow aerator can reduce the flow by about 25%. If your water looks bubbly as it comes out of the faucet, you may already have an aerator.

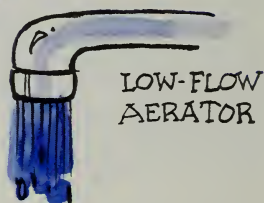
You can buy one or more aerators for less than \$5. Choose from a selection at your local hardware or plumbing supply store.

Simple aerators provide the direct flow needed to fill a glass or rinse your toothbrush. Spray taps and spray tap/aerator combinations are excellent for washing and rinsing dishes. Choose the one that best suits your needs.

**To install:** Most aerators, spray taps and spray tap/aerator combinations can be screwed on in seconds. If your faucet is unthreaded, ask your plumbing store for a "universal" faucet adapter.

**Note:**

It is important that you remove your aerator periodically to clean particles that may collect in the screen.



## WHAT ELSE CAN I DO TO SAVE WATER?

We've already zeroed in on the *major* sources of wasted water. There are many other things you can do to save even more water each day.

### 20 indoor/outdoor water-saving tips

A little effort will go a long way. You and your family can save hundreds more gallons of water each week with simple habit changes.

#### In the bathroom —

1. Turn off the tap while brushing your teeth or shaving. **Save 4–10 gallons a day.**

2. Never use your toilet as a waste basket. **Save 3–7 gallons per flush.**

3. Don't take marathon showers. (5 minutes will get you clean!) **Save 3–7 gallons per minute.\***





4. Close your tub drain before turning on the water. **Save 3 gallons or more.**

5. Fill your bathtub only halfway. **Save 5 gallons or more.\***

### In the kitchen and laundry areas—

6. Fill your sink or a basin when washing and rinsing dishes. **Save 8–15 gallons per day.\***



7. Run your dishwasher only when full. **Save 15 gallons per load.\***

8. Wash vegetables and fruit in a basin. Use a vegetable brush to remove dirt. **Save 2–4 gallons per day.**

9. Run your garbage disposal only when necessary. **Save 2–7 gallons per minute.**

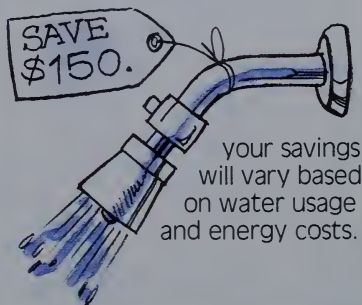
10. Run the washing machine only when full or adjust the water level setting carefully. Washing machines use 30–50 gallons per load. **Save 1–2 loads every week.\***

\*Saves hot water costs, too.

### Saving water can reduce energy costs.

The cost of heating water typically accounts for 20% of your total energy bill. Incoming service-water temperature is about 62° F; it must be heated to about 104° for shower use (to 140° for dishwashers and clothes washers).

Because your shower uses more hot water than any other fixture or appliance, low-flow shower heads will reduce your hot water costs dramatically. A conservation-minded family of four could save as much as \$150 per year in energy costs alone! Of course,



### Outdoors—

11. Water your lawn (and other landscaping) before 9:00 a.m. or after 9:00 p.m. to avoid excess evaporation.

12. Be sure sprinklers water only your lawn, not the pavement.

13. Never water on a windy, rainy or very hot day.

14. Plant less grass. Shrubs and ground cover require less maintenance, less water and provide year-round greenery.



**15.** Water shrubs and gardens using a slow trickle around the roots. A slow soaking encourages deep root growth, reduces leaf burn or mildew, and prevents water loss.



**16.** Apply mulch around flowers, shrubs, vegetables and trees to reduce evaporation, promote plant growth and control weeds.

**17.** Be sure your hose has a shut-off nozzle. Hoses without a nozzle can spout 10 gallons or more per minute.

**18.** When washing your car, wet it quickly, turn off the spray, then wash it with soapy water from a bucket. Rinse quickly.

**19.** Never use the hose to clean debris off your driveway or sidewalk. Use a broom.

**20.** Wash other items, like bicycles or trash cans on the lawn to give your grass an extra drink.

### Teach your children.

Share these tips with your children. Ask them not to turn the tap on full blast or leave it running unnecessarily. Make water conservation a game—see how much water you can save on your next water bill. Set a goal!

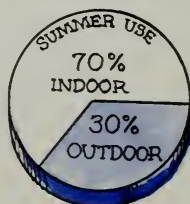
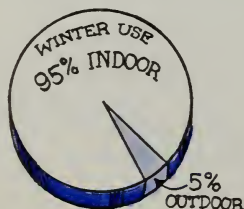


## CONSERVING WATER OUTDOORS

Wherever we use water, there's potential for waste. Water dispersed through sprinklers and hoses can account for up to half of the total water used in June, July and August. Unfortunately, due to inefficient watering techniques, much evaporates

before it ever reaches its intended destination—thirsty roots.

The amount of water you use (and can save) outdoors depends on your watering technique as well as the size, type and location of your lawn, shrubbery and gardens.



Outdoor water use in the winter is minimal (less than 5%). But in the summer, it can soar to as much as half of the total water you use! On hot summer days, system-wide demand for water frequently tops 440 million gallons—that's 47% more than its intended limit or "safe yield" of 300 million gallons a day.





## Your lawn—water only as needed.

Frequent sprinkling causes a weak lawn. Wet grass burns in the hot sun and is vulnerable to disease from mildew and fungus.

Light sprinkling also encourages shallow root growth. Test the soil for dryness. Water only when dry 1½ inches below the surface. Water less often, but check to see that the water soaks in 3 or 4 inches below the surface; this encourages deep root growth.

Roots can maintain plenty of moisture even after several days without rain. Before watering, look for signs that it's needed, such as patchy areas, a general change in color or footprints that remain in the grass long after being made.

### Timing is critical.

The best time to water is in the early morning preferably before 9:00 a.m. Evening is next best. Watering midday will result in a high rate of evaporation and sunburned grass.

**Applying one inch of water to 1000 square feet of lawn or garden requires 820 gallons of water.**

After heavy rains, you may not need to water for 10–14 days or more. If you rely on automatic timers, be sure to shut the sprinkler off during the rain.

### What's the best watering "technique"?

Choose the appropriate sprinklers for your lawn size and configuration. Check them frequently for proper direction and an even spray pattern. No matter how much you water your driveway and sidewalks, they won't grow!

Never water faster than it can be absorbed by your soil. For gardens and shrubs, consider using soaker hoses to provide a slow trickle directly to the roots.



**Remember:** One inch a week (rain plus supplemental watering) should be plenty.

Efficient watering will result in a lawn that looks great and can withstand disease, as well as seasonal and environmental stresses.

If your lawn "fades" in the summer, don't panic. Grass becomes naturally dormant during hot, dry periods. It will revive quickly after a good rainfall or when the weather becomes cooler.

## Caring for shrubs, flowers & gardens

Certain plants are hardier and more suitable to a New England climate than others. Check with your local nursery for advice when it comes time to plant or replace landscape elements.

## Give your plants credit for hardiness.

Most can survive extended dry spells if you train them well and early. Start preparing plants in the spring; let them dry out. Then water them generously using a slow trickle at the roots. This encourages strong, deep root growth and healthy mature plants.

## Mulches keep roots cool and moist.

Mulches, such as woodchips, pebbles and hay, reduce natural moisture loss and prevent weed growth. Three to six inches should do the job. On a sweltering 100°F day, a 3-inch mulch can keep the soil underneath up to 25° cooler! Avoid white marble chips which can damage acid loving plants like rhododendrons.

You can also improve soil water retention by adding organic matter such as compost, rotted manure or peat moss when you prepare soil for a new planting.

## Vegetable Gardens

Cover all bare soil with black plastic, newspaper or organic materials such as straw, salt hay, leaves or grass clippings. This prevents weed growth, keeps roots cool and greatly reduces the amount of supplementary watering needed.

In general, water using a slow trickle until the soil is moist 3 or 4 inches below the surface. Shallow watering lures vital feeder roots to the surface where they are vulnerable to heat and dryness. Do not water paths between plants. Test the soil for dryness. Water again only when dry 1½ inches below the surface.

Visit the library for gardening reference books or consult your local nursery about the watering needs of specific vegetables, fruits and flowers. There are dozens of varieties that can withstand dry summers and that actually thrive in drier soil.

## Two ways to water

Shrubs, bushes, flowers and vegetable gardens are best watered with a hand-held hose or by the drip irrigation method.



**By hose**—If your garden is small, use a hose. Apply water slowly at the base of each plant—not on leaves and foliage.



**Drip irrigation**—This method consists of a system of porous tubes or hoses (not eye-droppers!) that deliver small quantities of water at low pressure directly to where it does the most good—the root zones of plants. Once the secret of professional gardeners, drip irrigation is excellent for home use.



## FOR MORE INFORMATION

We should all be willing to make efforts to conserve—because the water we use is so precious.

You have taken the first step by reading through this guide. The next critical step is to actually apply these 20 tips to your daily routine, to check for leaks and to install water-saving devices wherever possible.

### Help yourself.

There are a variety of additional materials available to you for free.



Simply call 242-SAVE to request further information about water conservation, the MWRA water distribution system and other MWRA projects.

**Water.**  
**Keep it on tap for the future.**



**Massachusetts Water Resources Authority**

**Charlestown Navy Yard**

**100 First Avenue**

**Boston, Massachusetts 02129**

**242-SAVE**



## 7-DAY WATER USE CHART

Snip the tallies on page 19.

Note each time you flush the toilet, shower, bathe, brush your teeth, etc. Don't forget outdoor uses like washing your car or watering your garden. Note water use away from home, too;

it can add up to more than 20% of your tally.

After seven days use the chart below and add it all up. Divide the Grand Total by 7 to determine your average daily usage.

Activity/fixture	# of times	Water Used	Total
<b>Bathroom—</b>			
Toilet flushes	X	5 gal.	=
Showers	X	25 gal.	=
Baths	X	36 gal.	=
Brushing teeth	X	5 gal. water running 1/2 not	=
Shaving	X	5 gal. water running 1/2 not	=
<b>Kitchen/Laundry—</b>			
Meal preparation	X	5 gal.	=
Washing dishes by hand	X	30 gal. water running	=
Garbage disposal	X	5 gal.	=
Dishwasher	X	15 gal.	=
Washing machine	X	30 gal.	=
<b>Outdoors—</b>			
Washing car	X	20 gal.	=
Watering lawn/garden	X	8 gal./minute	=
Other	Estimate!		=
*The above water use figures are estimates. For more exact determinations, consult this booklet or your appliance manuals.			<b>Grand Total</b> = _____
			Divide by 7 = _____











# WATER TALLIES

Snip these tallies and tape one in your bathroom, kitchen, laundry room or other areas of water use. Put a strike (H#) on the proper line each time you

do one of the following. Keep track for one week, then see page 18 to figure out your average daily water use.

 <b>In Your Bathroom</b> Start Date: _____	 <b>In Your Bathroom</b> Start Date: _____
Toilet flushes _____	Toilet flushes _____
Showers _____	Showers _____
Baths _____	Baths _____
Brushing teeth _____	Brushing teeth _____
Shaving _____	Shaving _____
_____	_____
 <b>In Your Kitchen/Laundry</b> Start Date: _____	 <b>In Your Kitchen/Laundry</b> Start Date: _____
Meal preparation _____	Meal preparation _____
Washing dishes by hand _____	Washing dishes by hand _____
Garbage disposal _____	Garbage disposal _____
Dishwasher _____	Dishwasher _____
Washing machine _____	Washing machine _____
_____	_____
 <b>Outdoors</b> Start Date: _____	 <b>Outdoors</b> Start Date: _____
Washing car _____	Washing car _____
Watering lawn/garden (# minutes?) _____	Watering lawn/garden (# minutes?) _____
Other _____	Other _____
_____	_____





## Thank you for your interest in water conservation.

To help us more accurately educate our communities about the importance of water conservation, please take a moment to answer these questions.

If you would like to receive any of the following, please check the proper box:

- ☐ Additional Home Water Conservation Guides (\_\_\_\_ quantity)
- ☐ MWRA water system map
- ☐ Further information on the MWRA

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

### 1. How did you learn about this Guide?

- ☐ By calling 242-SAVE      ☐ Friend
- ☐ Local water department      ☐ Advertising

Other \_\_\_\_\_

### 2. Have you seen/heard water conservation messages on any of the following:

	Yes	No
Television	<input type="checkbox"/>	<input type="checkbox"/>
Subway/buses	<input type="checkbox"/>	<input type="checkbox"/>
Radio	<input type="checkbox"/>	<input type="checkbox"/>
Newspapers	<input type="checkbox"/>	<input type="checkbox"/>
Friends	<input type="checkbox"/>	<input type="checkbox"/>
Local Water Department	<input type="checkbox"/>	<input type="checkbox"/>
Other _____		

### 3. Have we missed something in this Guide?

If yes, what? \_\_\_\_\_

### 4. Did you know that . . .

- |  | Yes                      | No                       |
|--|--------------------------|--------------------------|
| Toilets are the largest water users in your household? | <input type="checkbox"/> | <input type="checkbox"/> |
| Leak detection is an easy way to save water?           | <input type="checkbox"/> | <input type="checkbox"/> |

### 5. Do you know a friend or organization that might benefit from copies of this Home Water Conservation Guide?

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

**THANK YOU FOR YOUR HELP!**

Massachusetts Water Resources Authority  
Charlestown Navy Yard  
100 First Avenue  
Boston, MA 02129

**Important  
Tips Enclosed!**  
**Water-Saving**

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